

WHAT IS CLAIMED IS:

1. A driving circuit for driving a capacitive element according to an input voltage, comprising:

5 a first constant-current source for supplying a current from a first power supply to the capacitive element;

a second constant-current source for supplying the current from the capacitive element to a second power supply;

a first comparative device for comparing the input
10 voltage with an output voltage to be supplied to the capacitive element;

a second comparative device for comparing the input voltage with a predetermined reference voltage; and

a control device for charging or discharging the
15 capacitive element through the first power supply or the second power supply based on the result of the comparison of the second comparative device, charging or discharging the capacitive element through the first constant-current source or the second constant-current source based on the result of
20 the comparison of the first comparative device, and holding a charging voltage of the capacitive element when the charging voltage of the capacitive element reaches the input voltage.

2. The driving circuit for driving a capacitive element
25 according to claim 1, further comprising:

a first switching device for opening and closing a path between the first constant-current source and the capacitive element;

a second switching device for opening and closing a path between the second constant-current source and the capacitive element;

a third switching device for opening and closing a path
5 between the capacitive element and the first power supply;
and

a fourth switching device for opening and closing a path between the capacitive element and the second power supply;

wherein the control device controls the opening and
10 closing of the third switching device and the fourth
switching device based on the result of the comparison of the
second comparative device to charge or discharge the
capacitive element through the first power supply or the
second power supply, controls the opening and closing of the
15 first switching device and the second switching device based
on the result of the comparison of the first comparative
device to charge or discharge the voltage of the capacitive
element through the first constant-current source or the
second constant-current source, and holds the charging
20 voltage of the capacitive element when the charging voltage
of the capacitive element reaches the input voltage.

3. The driving circuit for driving a capacitive element according to claim 2, wherein the first comparative device
25 comprises a switched comparator including an inverter and a
capacitor which holds a differential voltage between the
input voltage and a logical threshold voltage of the inverter.

4. The driving circuit for driving a capacitive element according to claim 2, wherein the second comparative device comprises an inverter for inverting the input voltage and analog switches for supplying and not supplying the inverter
5 with an input signal.

5. The driving circuit for driving a capacitive element according to claim 2, wherein the reference voltage is a midpoint potential between the first power supply and the
10 second power supply.

6. The driving circuit for driving a capacitive element according to claim 2, wherein the first comparative device comprises a switched comparator including a variable logical
15 threshold inverter.